

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS

1. (Currently Amended) A method for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, comprising:
 - obtaining a user service profile including a QoS level for the user in response to a user log-in attempt to a service selection gateway (SSG), the QoS level being associated with the user ~~regardless of a source address of packets originated by the user;~~
 - routing all packets originated by the user through the SSG during a session;
 - setting, in the SSG, the QoS bits of packets originated by the user in accordance with the QoS level for the user; and
 - passing, after said QoS bits have been set, said packets on to the data communications network,

wherein said packets are IP packets, and said QoS bits are the precedence bits within the ToS/Differentiated Services field of said IP packets.

2. (Original) A method in accordance with claim 1 wherein all packets transmitted by the user have QoS bits set in accordance with QoS level for the user.

3. (Currently Amended) A method for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, comprising:

- initiating a request to an authentication, authorization and accounting (AAA) server in response to the user's attempt to log-in;
- receiving, in response to said request, a user service profile corresponding to the user, said user service profile including a Quality of Service field, the user service profile being associated with the user ~~regardless of a source address of packets originated by the user~~; and
- using said Quality of Service field to set the QoS bits within said packets transmitted by the user,

wherein said packets are IP packets, and said QoS bits are the precedence bits within the ToS/Differentiated Services field of said IP packets.

4. (Original) A method in accordance with claim 3 wherein all packets transmitted by the user have QoS bits set in accordance with said Quality of Service field of said user.

5-6. (Canceled)

7. (Currently Amended) A method ~~in accordance with claim 6~~ for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, comprising:

- receiving, at a service selection gateway to which the user is in communication, a request from the user to assign a particular Quality of Service level to at least one packet flow transmitted by the user;

assigning, in response to said request, a Quality of Service level to said at least one packet flow;
setting said QoS bits within said packets belonging to said at least one packet flow
received at the service selection gateway in accordance with said Quality of Service level; and
transmitting said packets belonging to said at least one packet flow to the data
communications network,
wherein all of said packets belonging to said at least one packet flow are IP packets, and
said QoS bits are the precedence bits within the ToS/Differentiated Services field of said IP
packets.

8. (Canceled)

9. (Currently Amended) A method for setting Quality of Service (QoS) bits of
packets sent by a user of a data communications network, said method in accordance with claim
8, further comprising:

receiving, at a service selection gateway to which the user is in communication, a request
from the user to assign a particular Quality of Service level to at least one packet flow
transmitted by the user;

assigning, in response to said request, a Quality of Service level to said at least one packet
flow;
setting said QoS bits within said packets belonging to said at least one packet flow
received at the service selection gateway in accordance with said Quality of Service level; and

transmitting said packets belonging to said at least one packet flow to the data communications network;
communicating between the service selection gateway and an AAA server the request;
and
communicating between the service selection gateway and the AAA server information related to the quantity of packets transmitted by the user and modified by the service selection gateway with respect to the QoS bits.

10. (Currently Amended) A method for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said method in accordance with claim 8, further comprising:

receiving, at a service selection gateway to which the user is in communication, a request from the user to assign a particular Quality of Service level to at least one packet flow transmitted by the user;

assigning, in response to said request, a Quality of Service level to said at least one packet flow;

setting said QoS bits within said packets belonging to said at least one packet flow received at the service selection gateway in accordance with said Quality of Service level; and
transmitting said packets belonging to said at least one packet flow to the data communications network;

communicating between the service selection gateway and an AAA server the request;
and

communication between the service selection gateway and the AAA server information related to the duration of time that packets transmitted by the user are modified by the service selection gateway with respect to the QoS bits.

11. (Original) A method in accordance with claim 10, further comprising:
communicating between the service selection gateway and the AAA server information related to the quantity of packets transmitted by the user and modified by the service selection gateway with respect to the QoS bits.

12-16. (Canceled)

17. (Currently Amended) An apparatus ~~according to claim 15~~ for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said apparatus comprising:

a service selection gateway (SSG) in communication with the user, said SSG receiving a user service profile including a QoS level in response to an attempt to log-in by the user, the QoS level being associated with the user; and

a packet modifier associated with said SSG, said packet modifier modifying the QoS bits of packets sent by the user to reflect the QoS level received for the user, said packet modifier modifying all packets transmitted by the user to the data communications network via the SSG,

wherein all modified packets are IP packets and the QoS bits are the precedence bits in the ToS/Differentiated Services field of the IP packets.

18. (Currently Amended) ~~An apparatus according to claim 16~~ for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said apparatus comprising:

a service selection gateway (SSG) in communication with the user,-said SSG receiving a user service profile including a QoS level in response to an attempt to log-in by the user, the QoS level being associated with the user; and

a packet modifier associated with said SSG, said packet modifier modifying the QoS bits of packets sent by the user to reflect the QoS level received for the user, said packet modifier modifying packets belonging to at least one flow of packets transmitted by the user to the data communications network via the SSG,

wherein all modified packets are IP packets and the QoS bits are the precedence bits in the ToS/Differentiated Services field of the IP packets.

19. (Currently Amended) An apparatus for setting Quality of Service (QoS) indicator bits of packets sent by a user of a data communications network, said apparatus comprising:

a service selection gateway (SSG) in communication with the user and the data communications network;

a packet modifier associated with said SSG, responsive to a QoS request by the user, setting a QoS bit field of packets sent by the user to the data communications network via the SSG, wherein said packets are IP packets and said QoS bits are the precedence bits within the ToS/Differentiated Services field of said IP packets.

20. (Original) An apparatus according to claim 19 wherein said QoS bit field is set to a value specified in said QoS request.

21. (Original) An apparatus according to claim 20 wherein said QoS bit field is set for all packets sent by the user to the data communications network via the SSG.

22. (Original) An apparatus according to claim 20 wherein said QoS bit field is set for all packets sent by the user to the data communications network via the SSG which packets belong to at least one packet flow specified in said QoS request.

23. (Currently Amended) ~~An apparatus according to claim 19~~ for setting Quality of Service (QoS) indicator bits of packets sent by a user of a data communications network, said apparatus comprising:

a service selection gateway (SSG) in communication with the user and the data communications network; and

a packet modifier associated with said SSG, responsive to a QoS request by the user, setting a QoS bit field of packets sent by the user to the data communications network via the SSG,

wherein said SSG is in communication with an AAA server and sends the AAA server information relating to the number of packets sent by the user to the data communications network via the SSG which are modified in accordance with QoS.

24. (Original) An apparatus according to claim 20 wherein said SSG is in communication with AAA server and sends the AAA server information relating to the number of packets sent by the user to the data communications network via the SSG which are modified in accordance with said QoS request.

25. (Original) An apparatus according to claim 21 wherein said SSG is in communication with an AAA server and sends the AAA server information relating to the number of packets sent by the user to the data communications network via the SSG which are modified in accordance with said QoS request.

26. (Original) An apparatus according to claim 22 wherein said SSG is in communication with an AAA server and sends the AAA server information relating to the number of packets sent by the user to the data communications network via the SSG which are modified in accordance with said QoS request.

27. (Currently Amended) ~~An apparatus according to claim 19~~ for setting Quality of Service (QoS) indicator bits of packets sent by a user of a data communications network, said apparatus comprising:
a service selection gateway (SSG) in communication with the user and the data communications network; and
a packet modifier associated with said SSG, responsive to a QoS request by the user, setting a QoS bit field of packets sent by the user to the data communications network via the SSG.

wherein said SSG is in communication with an AAA server and sends the AAA server information relating to the amount of time that said QoS request is in effect.

28. (Original) An apparatus according to claim 20 wherein said SSG is in communication with an AAA server sends the AAA server information relating to the amount of time that said QoS request is in effect.

29. (Original) An apparatus according to claim 21 wherein said SSG is in communication with an AAA server and sends the AAA server information relating to the amount of time that said QoS request is in effect.

30. (Original) An apparatus according to claim 22 wherein said SSG is in communication with an AAA server and sends the AAA server information relating to the amount of time that said QoS is in effect.

31. (Currently Amended) An apparatus for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said apparatus comprising:

means for obtaining a user service profile including a QoS level for the user in response to a user log-in attempt to a service selection gateway (SSG)), the QoS level being associated with the user ~~regardless of a source address of packets originated by the user;~~

means for routing all packets originated by the user through the SSG during a session;

means for setting, in the SSG, the QoS bits of packets originated by the user in accordance with the QoS level for the user; and

means for passing, after said QoS bits have been set, said packets on to the data communications network,

wherein said packets are IP packets, and said QoS bits are the precedence bits within the ToS/Differentiated Services field of said IP packets .

32. (Previously Presented) An apparatus in accordance with claim 31 wherein all packets transmitted by the user have QoS bits set in accordance with QoS level for the user.

33: (Currently Amended) An apparatus for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said apparatus comprising:

means for initiating a request to an authentication, authorization and accounting (AAA) server in response to the user's attempt to log-in;

means for receiving, in response to said request, a user service profile corresponding to the user, said user service profile including a Quality of Service field, the user service profile being associated with the user ~~regardless of a source address of packets originated by the user;~~
and

means for using said Quality of Service field to set the QoS bits within said packets transmitted by the user,

wherein said packets are IP packets, and said QoS bits are the precedence bits within the ToS/Differentiated Services field of said IP packets.

34. (Previously Presented) An apparatus in accordance with claim 33 wherein all packets transmitted by the user have QoS bits set in accordance with said Quality of Service field of said user.

35-36. (Canceled)

37. (Currently Amended) An apparatus for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said apparatus in accordance with claim 36 comprising:

means for receiving, at a service selection gateway to which the user is in communication, a request from the user to assign a particular Quality of Service level to at least one packet flow transmitted by the user;

means for assigning, in response to said request, a Quality of Service level to said at least one packet flow;

means for setting said QoS bits within said packets belonging to said at least one packet flow received at the service selection gateway in accordance with said Quality of Service level;

and

means for transmitting said packets belonging to said at least one packet flow to the data communications network,

wherein all of said packets of said at least one packet flow are IP packets, and said QoS bits are the precedence bits within the ToS/Differentiated Services field of said IP packets.

38. (Canceled)

39. (Currently Amended) An apparatus for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said apparatus in accordance with claim 38, further comprising:

means for receiving, at a service selection gateway to which the user is in communication, a request from the user to assign a particular Quality of Service level to at least one packet flow transmitted by the user;

means for assigning, in response to said request, a Quality of Service level to said at least one packet flow;

means for setting said QoS bits within said packets belonging to said at least one packet flow received at the service selection gateway in accordance with said Quality of Service level;

means for transmitting said packets belonging to said at least one packet flow to the data communications network;

means for communicating between the service selection gateway and an AAA server said request; and

means for communicating between the service selection gateway and the AAA server information related to the quantity of packets transmitted by the user and modified by the service selection gateway with respect to the QoS bits.

40. (Currently Amended) An apparatus for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said apparatus in accordance with claim 38, further comprising:

means for receiving, at a service selection gateway to which the user is in communication, a request from the user to assign a particular Quality of Service level to at least one packet flow transmitted by the user;

means for assigning, in response to said request, a Quality of Service level to said at least one packet flow;

means for setting said QoS bits within said packets belonging to said at least one packet flow received at the service selection gateway in accordance with said Quality of Service level;

means for transmitting said packets belonging to said at least one packet flow to the data communications network;

means for communicating between the service selection gateway and an AAA server said request; and

means for communication between the service selection gateway and the AAA server information related to the duration of time that packets transmitted by the user are modified by the service selection gateway with respect to the QoS bits.

41. (Previously Presented) An apparatus in accordance with claim 40, further comprising:

means for communicating between the service selection gateway and the AAA server information related to the quantity of packets transmitted by the user and modified by the service selection gateway with respect to the QoS bits.

42. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for setting

Quality of Service (QoS) bits of packets sent by a user of a data communications network, the method comprising:

obtaining a user service profile including a QoS level for the user in response to a user log-in attempt to a service selection gateway (SSG)), the QoS level being associated with the user ~~regardless of a source address of packets originated by the user;~~

routing all packets originated by the user through the SSG during a session;

setting, in the SSG, the QoS bits of packets originated by the user in accordance with the QoS level for the user; and

passing, after said QoS bits have been set, said packets on to the data communications network,

wherein said packets are IP packets, and said QoS bits are the precedence bits within the ToS/Differentiated Services field of said IP packets.

43. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, the method comprising:

initiating a request to an authentication, authorization and accounting (AAA) server in response to the user's attempt to log-in;

receiving, in response to said request, a user service profile corresponding to the user, said user service profile including a Quality of Service field, the user service profile being associated with the user ~~regardless of a source address of packets originated by the user;~~ and

using said Quality of Service field to set the QoS bits within said packets transmitted by the user,

wherein said packets are IP packets, and said QoS bits are the precedence bits within the ToS/Differentiated Services field of said IP packets.

44. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, the method comprising:

receiving, at a service selection gateway to which the user is in communication, a request from the user to assign a particular Quality of Service level to at least one packet flow transmitted by the user;

assigning, in response to said request, a Quality of Service level to said at least one packet flow;

setting said QoS bits within said packets belonging to said at least one packet flow received at the service selection gateway in accordance with said Quality of Service level; and

transmitting said packets belonging to said at least one packet flow to the data communications network,

wherein all of said packets belonging to said at least one packet flow are IP packets, and said QoS bits are the precedence bits within the ToS/Differentiated Services field of said IP packets.

45. (Canceled)

46. (Currently Amended) A method for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said method in accordance with claim

~~45, further~~ comprising:

obtaining a user service profile including a QoS level for the user in response to a user log-in attempt to a service selection gateway (SSG), the QoS level being associated with the user;

routing all packets originated by the user through the SSG during a session;

setting, in the SSG, the QoS bits of packets originated by the user in accordance with the QoS level for the user;

passing, after said QoS bits have been set, said packets on to the data communications network;

modifying, in the SSG, the QoS bits of the packets transmitted by the user; and

communicating with an authentication, authorization and accounting (AAA) server information related to the duration of time that packets transmitted by the user are modified by the SSG with respect to the QoS bits.

47. (Currently Amended) A method for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said method in accordance with claim

~~45, further~~ comprising:

obtaining a user service profile including a QoS level for the user in response to a user log-in attempt to a service selection gateway (SSG), the QoS level being associated with the user;

routing all packets originated by the user through the SSG during a session;

setting, in the SSG, the QoS bits of packets originated by the user in accordance with the QoS level for the user;
passing, after said QoS bits have been set, said packets on to the data communications network;
modifying, in the SSG, the QoS bits of the packets transmitted by the user; and
communicating with an authentication, authorization and accounting (AAA) server
information related to the quantity of packets transmitted by the user and modified by the SSG
with respect to the QoS bits.

48. (Canceled)

49. (Currently Amended) A method for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said method in accordance with claim 48, further comprising:

initiating a request to an authentication, authorization and accounting (AAA) server in response to the user's attempt to log-in;

receiving, in response to said request, a user service profile corresponding to the user, said user service profile including a Quality of Service field, the user service profile being associated with the user;

using said Quality of Service field to set the QoS bits within said packets transmitted by the user;

modifying the QoS bits in the packets transmitted by the user; and

communicating, with an authentication, authorization and accounting (AAA) server, information related to the duration of time that packets transmitted by the user are modified with respect to the QoS bits.

50. (Currently Amended) A method for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said method in accordance with claim 48, further comprising:

initiating a request to an authentication, authorization and accounting (AAA) server in response to the user's attempt to log-in;

receiving, in response to said request, a user service profile corresponding to the user, said user service profile including a Quality of Service field, the user service profile being associated with the user;

using said Quality of Service field to set the QoS bits within said packets transmitted by the user;

modifying the QoS bits in the packets transmitted by the user; and

communicating, with an authentication, authorization and accounting (AAA) server, information related to the quantity of packets transmitted by the user and modified with respect to the QoS bits.

51. (Currently Amended) A method in accordance with claim 17 ~~claim 12~~, wherein said SSG is also in communication with an authentication, authorization and accounting (AAA) server.

52. (Previously Presented) A method in accordance with claim 51, wherein the user service profile including the QoS level is received from the AAA server.

53. (Canceled)

54. (Currently Amended) An apparatus ~~in accordance with claim 53, further for~~ setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said apparatus comprising:

means for obtaining a user service profile including a QoS level for the user in response to a user log-in attempt to a service selection gateway (SSG)), the QoS level being associated with the user;

means for routing all packets originated by the user through the SSG during a session;

means for setting, in the SSG, the QoS bits of packets originated by the user in accordance with the QoS level for the user; and

means for passing, after said QoS bits have been set, said packets on to the data communications network;

means for modifying the QoS bits of the packets transmitted by the user; and

means for communicating, with an authentication, authorization and accounting (AAA) server, information related to the duration of time that packets transmitted by the user are modified with respect to the QoS bits.

55. (Currently Amended) An apparatus ~~in accordance with claim 53, further for~~
setting Quality of Service (QoS) bits of packets sent by a user of a data communications network,
said apparatus comprising:

means for obtaining a user service profile including a QoS level for the user in response
to a user log-in attempt to a service selection gateway (SSG)), the QoS level being associated
with the user;

means for routing all packets originated by the user through the SSG during a session;

means for setting, in the SSG, the QoS bits of packets originated by the user in
accordance with the QoS level for the user;

means for passing, after said QoS bits have been set, said packets on to the data
communications network;

means for modifying the QoS bits of the packets transmitted by the user; and

means for communicating, with an authentication, authorization and accounting (AAA)
server, information related to the quantity of packets transmitted by the user and modified by the
SSG with respect to the QoS bits.

56. (Canceled)

57. (Currently Amended) An apparatus for setting Quality of Service (QoS) bits of
packets sent by a user of a data communications network, said apparatus in accordance with
claim 56, further comprising:

means for initiating a request to an authentication, authorization and accounting (AAA)
server in response to the user's attempt to log-in;

means for receiving, in response to said request, a user service profile corresponding to the user, said user service profile including a Quality of Service field, the user service profile being associated with the user;

means for using said Quality of Service field to set the QoS bits within said packets transmitted by the user;

means for modifying the QoS bits in the packets transmitted by the user; and

means for communicating, with an authentication, authorization and accounting (AAA) server, information related to the duration of time that packets transmitted by the user are modified with respect to the QoS bits.

58. (Currently Amended) An apparatus for setting Quality of Service (QoS) bits of packets sent by a user of a data communications network, said apparatus in accordance with claim 56, further comprising:

means for initiating a request to an authentication, authorization and accounting (AAA) server in response to the user's attempt to log-in;

means for receiving, in response to said request, a user service profile corresponding to the user, said user service profile including a Quality of Service field, the user service profile being associated with the user;

means for using said Quality of Service field to set the QoS bits within said packets transmitted by the user;

means for modifying the QoS bits in the packets transmitted by the user; and

means for communicating, with an authentication, authorization and accounting (AAA) server, information related to the quantity of packets transmitted by the user and modified with respect to the QoS bits.